

BITS & PIECES

QUIKDATA TO HANDLE OUR OWN BRAND

I received in my Saturday, March 31st mail a post card from one of my suppliers advertising high-quality low-cost PC XT, AT and 386 based computers. Hmmm, I thought, this may be a way to go. Then on Monday, April 2nd Paul Herman called to advise that I forget name brands and go with my own brand.

I am a strong believer that God does not allow doors to be closed without opening other doors. It may not happen when and how we would like it to happen, but I've learned all throughout my life that it does indeed work that way. Looking back at the Zenith fiasco, I now decided that Zenith's dumping of mail-order business, leaving Quikdata out in the cold was a blessing indeed.

After some thinking, I decided that Paul Herman was probably right. Give more computer for the bucks. Thus that's what Quikdata is going to do! I figure I'll be able to supply as much computer as the ZDS/BULL brand name at less than half the cost. In fact, I'll be able to offer a 386 25Mhz system for less than Zenith 248 12Mhz systems sold for.

All the major computer manufacturers use imported parts anyway, and most are made in Korea, Taiwan or some such far away place. They all come with a one year warranty - name brands and no-name clones. And the clones have had much less compatibility problems than the Zenith have had. So what's the difference. Besides, I reasoned, if I go with another name brand, what if they suddenly decide to go against the mail order bit. Then I'd be back to square one again.

Nope. This way, I'll be able to custom configure the systems anyway I want to and deliver a burnt-in system within a day or two at a very reasonable cost.

We are presently stocking a 286 12Mhz system for a base price of \$695 and a 386 25Mhz system (which has been on my desk for over a month now) for a base price of about \$1495. These are bare bones systems with 0 wait states and 1MB RAM. We'll then add controllers, video cards, floppy drives, hard drives, etc., as the customer wants.

Next month I'll have a complete description and price breakdown on the systems, and then I'll work on getting a new catalog out.

NO MORE ROM RETURNS NECESSARY

Miracles of miracles! I called Zenith Data Systems Parts department on April 9, 1990 to order some Z151 monitor ROMs. After I placed the order, I was informed that we **no longer have to return the old outdated monitor ROMs**. This goes for all 444-xxx parts.

Those who have been following this newsletter, know all about this boner. What you did not know, is I wrote a strong letter to Ron McClanahan, VP of parts department, and sent carbon copies to John Frank, President of ZDS and others. I sent them a letter of the asininity of this whole thing, and included a copy of the letter I sent to customers about my feelings about the necessary ROM returns.

It did not go very well. I was called shortly after by Dan Gupser, my parts rep (who I just found is no longer with Zenith). He basically said I was dirtying Zenith's name and if I did not change the letter immediately which I sent to customers, I would no longer be a service center, as we have to sign an agreement to uphold Zenith's name no matter what!

Fine. I tuned down my letter and sent Dan a copy via FAX and he sent an alternative to me, which I would not release to my customers. I did, however, tune mine down, to leave Zenith's strange policies out of it.

Thus, something must have clicked somewhere, because customers no longer have to return 444-xxx parts. This includes any ROMs, PALs, and other goodies. I don't know if my letters and almost losing my service center position (after losing ZDS computers) had anything to do with it, but I'd like to think that it did. I have always been a fighter for what I believe in and I will continue in that tradition and belief.

Z515 4MB Z386/16 RAM BOARDS AVAILABLE

And if the ROM business is not enough, miracles of more miracles, there suddenly seems to be a supply of the 4MB RAM boards for the Z386 16Mhz system that Zenith used to sell for \$2999, later to be dropped to \$1999, which we used to sell for \$1295. And get this - **THE COST IS ONLY \$600!!** That has to be far below cost, but if you have one of these computers, I'd get one real quick now before they disappear again!

I simply cannot believe this situation. When they were "all gone" I tried every resource available to me to try to obtain more (remember the Z217 Z100 hard disk controllers and MS-DOS 3's were also all gone forever - but we got a truck load of them) and they not only were not available but "were not going to be made for that obsolete machine anymore".

Well, a customer of mine called and said Heath company had them for \$600. I could not believe it, so I called, and they told me they could not find any! I called again a few days later and they informed me that they were indeed available! A classical example of talking to different people and getting two different answers, and the left hand does not know what the right hand is doing!

Anyway, if you want them, don't wait, as I don't know when "they will no longer be available again" statement will echo through the H/Z hallways. Call Heath at (800) 253-0570 and ask for the Z-515 4MB RAM board.

Then Mike Stover left me a review that the First Capitol Computer 4MB mod kit for the Z505 1MB board (see review in this newsletter) is now available for \$995. So suddenly we have all sorts of memory again for the "obsolete" Z386/16.

Remember, you read it here first!

ZENITH/BULL AGREE ON FINAL PRICE

Zenith Electronics Corporation will receive an additional payment of \$15 million (plus interest from Dec. 28, 1989) from Groupe Bull for Zenith's computer products business, the company announced today.

The additional payment, the result of 30 days of negotiations under provisions of the sale agreement, brings the final sale price for Zenith's computer business to about \$511 million. Zenith sold

its computer products business to Paris-based Groupe Bull on Dec. 28, 1989, and received an advance payment of \$496.4 million in cash.

Groupe Bull had claimed earlier that post-closing adjustments should result in a refund from Zenith of approximately \$49 million; Zenith, on the other hand, concluded that Groupe Bull still owed it an additional payment.

If the companies had been unable to reach agreement by negotiation, the matter would have been submitted to arbitration. Arbitration would have been uncertain as to outcome and would have involved significant management time and expense.

Because the negotiated final payment was less than the net receivable that Zenith had recorded on its books at year-end, Zenith's first-quarter 1990 results will reflect a charge to discontinued operations of about \$11 million.

Well, I'm glad that's settled. Now they can get down to business and avoid the costs and problems of arbitration.

PROBLEMS WITH ZDS SUPPORT

A subscriber sent in a clipping from the April 1990 issue of PC WORLD involving Zenith service and the ZCM-1490 monitor:

I purchased a Zenith ZCM-1490-Z flat tension monitor, primarily because of the rave review it received in your magazine ["VGA Monitors--Cheap and Smart," December 1988] as well as in others. The reviews were accurate: It "puts out the best VGA image money can buy," but not for long. About six months after I got the monitor, the blue color quit, and the screen started to go alternately bright and dim.

I contacted Zenith, and they gave me the address of the closest Zenith Service Center - about 100 miles away. The staff there said repairs would take two weeks - a long time to be without a monitor. (The center doesn't provide loaners.)

Well, 47 days later my monitor still wasn't fixed. The repair center didn't have the parts and couldn't get them from another division.

I called customer service, but all they said was, "We are looking into it" and "We'll get back to you." I wrote a letter to Zenith hoping the written word would do more than a call. All I got was the same line.

Don't you think a company the size of Zenith - one that says, "The quality goes in before the name goes on" - should build a product that won't fail after six months, and that they can do more than just "look into it?"

ZENITH responds: On September 19, 1989, our customer service department received a letter from Mr. Pasquale, which was assigned to one of our customer service representatives. She contacted the Heath/Zenith Electronics Center in Wellesley, Massachusetts, to obtain information regarding the status of Mr. Pasquale's monitor. The Heath/Zenith dealer informed her they were waiting for a part. The part was expedited and shipped to the service center from our factory in St. Joseph, Michigan. The customer service representative followed up with a phone call to Mr. Pasquale and confirmed that the monitor was operating properly and everything was satisfactory. Part of the problem was caused by the fact that the particular part necessary to repair the monitor was on back order when the monitor was first taken to the service center for repair. This situation has since been rectified.

We are extremely sorry for any inconvenience Mr. Pasquale or any other ZCM-1490 customer may have experienced as a result of this situation. - Larry L. Liddle, Director, Technical and Customer Service, Zenith Data Systems

SAVE THE ROBOT!

I just received a letter from a woman who thought I published REMark magazine. The purpose of the letter was to get me to remove the "sexist" ad which has been appearing on the inside front cover of the magazine showing the "obvious female robot" and the implied sexist remarks comparing the bulletin board to a fast woman. I took another look at the inside front cover, and frankly, I think the robot is fine. In fact, I've always enjoyed the photo, and the claims about the bulletin board are just that - statements about the bulletin board.

I would think that in this day and age where the world could self destruct at any second and the millions of problems facing the world and the human race, the last thing we need to do is create problems that do not exist.

My vote is to keep the advertisement - and save the robot! I wish I had a robot like that (don't tell my wife I said that! - she just might go out and try to find me one!)

In fact, I'll tell you what I'll do. I'm going to digitize that robot, convert it to CGA, EGA and VGA and throw it on my bulletin board with the proper view software. That way you can display it on your computer screen whenever you wish! Hope you don't mind Jim!

MTE NOT PUBLIC DOMAIN

A customer, Dave Kramka sent me some info from MTE which apparently has been appearing on bulletin boards. He thought he saw it on mine, but he definitely did not!

"MTE is a COMMERCIAL software package from Magisoft Inc. Likely someone has placed it on various BBS's for public download (generally under the name MTE-MNP5.ZIP, MTE20D.ZIP or MTE201F.ZIP). If you know of any BBS that is distributing MET in such an ILLEGAL fashion, please inform the SYSOP that he has a commercial program on his BBS and ask him to remove it immediately.

"Help stop this outrage and protect your investment so that we may continue to provide our users with quality communications software at competitive prices."

Magisoft, Inc./ POB 396/ Lombard, IL 60148/ (708) 953-2374.

Dave writes "... I have purchased thru Holmes Microsystems, software called MTE 2.1 to run with my laptop Holmes Z-2400 Correspondent modem. I did this to add MNP error correction to my laptop use and it does seem to work fine. My experience so far is communicating with a Racal-Vadic 2400VP with MNP built in and they seem to get along fine! I suspect there may be some small speed sacrifice compared with a fully hardware based MNP but the error correction would be there just the same. MTE looks and feels just like ProComm to use, which made it easy for me to learn. Cost is \$49.95 for basic MTE with an optional "add on" emulation protocol expansion disk for \$19 more."

MORE ON PARALLEL PORTS

Last month I printed a technical article on the parallel ports of the Z248 and Z386 computers and how they worked with the addressing. Dave Brockman from FBE Research faxed me some feedback:

This whole business is less confusing if you realize what's going on inside the computer. The key is the device port address table (DPAT) at memory address 0:400. This is the thing that you were looking at with DEBUG.

The DPAT is used by MSDOS (via the BIOS ROM INT 17) to find the physical port address of an LPT device. LPT1: is the first entry

in the DPAT, LPT2: the second and LPT3: the third. The DPAT is built by the BIOS ROM code shortly after power up by trying out the three possible parallel port addresses. The first active port address found becomes the first DPAT entry, the next active port address found becomes the second entry and so on. If none of the possible port addresses are active then there are no entries in the DPAT.

In the BIOS ROM's that I have looked at, the possible port addresses are 3BC, 3F8 and 2F8. They are checked in that order, as you determined.

All of the above, of course, boils down to your hard won rule (slightly restated): The highest port address is LPT1:, the next highest is LPT2:, and so on. Isn't this the way the IBM PC's work? If not, why did the Dr. Dr. Zucker guy know about the DPAT?

The initial problem (both printers responding when LPT1 was accessed) was most certainly caused by having both printer cards at the same port address. What happened after that I don't understand too well. [editors note: That's the good part. One card was set for LPT1:, one for LPT2:, and one for LPT3:. That's the part that doesn't make any sense. However, by looking at the doc for these cards, they were obviously changing not addresses, but interrupts! I don't understand it either!]

I have never heard of ports being selected by interrupts. Ports are selected by I/O port addresses. If you have more than one parallel port, then each must have its own address. There is nothing unusual or non-standard about this. It is the way computers work. It may be that you are thinking of an interrupt select jumper that also chooses the port address as well, since in the PC world at least, interrupts and port addresses usually go together.

In addition Albert Noe writes: "... The Z248 is not acting contrary to IBM standards, but is in fact operating exactly as it should. The 3 addresses you mention are checked by the IBM BIOS and assigned the LPT: ports the same way. All ports are addressed, by the way, and not set up by "industry standard interrupts". Also no software driver is ever going to be able to overcome two hardware objects residing at the same address. I wouldn't hold my breath waiting for that to happen.

"I also read the comments about the **SOTA 386 vs hard disk problems** - don't know where SOTA sticks their cache but do know that **Zenith played games with their hard disk ROM addresses**. If jumper installed was the standard address of C:80000. The strange F:4000 was to get out of the way of the H-319 (Z-100) video card which used all of the 192K in the A, B, and C segments. In any event, if the hard disk card is addressable, it would be worth while experimenting with to see if it solved the conflict, (The BIOS will find it at start up.)

"I'm not an expert at any of this stuff, but have found The Winn Rosch Hardware Bible to be very readable and comprehensive. For instance, if one were to idle on by Waldenbooks and browse page 370 and 371, the entire parallel port scheme and reasoning why fore is laid out. It is a bit pricey at \$29.95 but is a real gold mine of information. (Serial ports and their addresses are up around page 428, to save you a bit of thumbing time.)..."

OK, I stand corrected. What threw me off, I think, was all these cards we used worked fine in any other non-Zenith system they were tested in, just never the Zeniths. I think it was because of the Zenith parallel port card which occupies the middle address no matter how it's set.

ONE UPGRADE AT A TIME!!

I wrote experiences here before about people putting mods and enhancements into their computers, a handful at a time. Then

something goes wrong, they can't get their system back up, and they don't know what the problem may be. So they call vendors of the products, or vendors who sold them the product(s) like Quikdata, and we're supposed to instantly solve the problem.

I realize when putting enhancements and upgrades in systems in, the impulse is to hurry and do it all as fast as possible. In more cases than not, this is a major mistake, since the problems which may creep up cannot be easily diagnosed.

For instance: One installs the H89 superset, superfont, superclock, 4MHZ mod, and they then turn on their computer and it does not come up. So they panic and call Quikdata. I have no idea what the problem is, since I am here and they are there. The solution to the problem is usually not obvious, since the problem is not obvious. Too much has happened too fast.

Here is what you do. I don't care if you have one or ten things you want to do to your computer. Do one at a time and test it thoroughly before going on to the next. If all works, you know that any future problems probably are not related to the previous one(s). If you install another thing and the computer suddenly does not work, we both know where to start looking.

However, when that same mod is installed, and then five others after that before any testing is done, and then the computer doesn't work, come up, or gives problems when booted or running programs, instead of having one item to check out, you have to go through five or six? Get the picture. Although patience is required the proper way (and patience is a virtue), it narrows down the troubleshooting.

Don't assume everything will always work, and by all means, don't ignore Murphy's law and don't assume you are an expert. Leave any and all leeway for problems and be prepared for it. The slower you take it in the first place, and the more you check each step, the easier things will go later.

So how do we usually solve the multiple problems? We tell the customer to take everything out of his system he has just installed and start from the beginning, and then to see where the problem occurs. That way, both the customer and ourselves, and other vendors involved, have one problem to attempt to solve, and not a handful.

* For the **Smartclock** (Smartwatch) module that plugs into the monitor ROM socket in Zenith's **DOS 3.21**, **RTCLOCK can be used** to set it and the software provided with the clock is not needed as DOS supports it. **For DOS 3.3 plus**, the TIME and DATE command are all that's needed.

* **Fax a poor mans digitizer?** Jeff Sohn of JSM Communications posed a question to me that somebody may have tried. Sure would like feedback on this one. You can set most stand-alone faxes for high resolution transmission which does a fairly good job for picture transmission. If one had a fax card in his computer, is there anyway somebody may know of to transmit to a stand-alone fax in high-res mode to a computer fax card, and have the computer capture the image and convert it to one of the picture image formats. This in turn could be used for a desktop publisher that supports one of those formats. Think about it. It would be a poor mans way to "digitize" pictures for inclusion into a publisher. Any ideas?

* **"PC TOOLS 5.5** - I have found a **minor bug** not listed in the manuals. If you exit the program while it is logged onto drive A:, B:, or C:, the next time the program is called up it will burp and display an ominous error message:

No Response (Program is not Ready)
(Abort) (Retry) (Ignore)

"If you hit "retry," note that one of the drives lights up. This is a dead giveaway as to the nature of the problem. "To fix the pro-

blem, type a CTRL-C and hit ENTER and the message goes away and the program comes up as usual. At this time, go to the "OPTIONS" pull down menu and hit "Save Configuration." This procedure will put you back on line. Credit to John Toscano. Submitted by Dan Jerome.

* "I just received the **Winter Shareware catalog from Gemini Marketing Inc.** Inside, there are 24 pages of assorted shareware arranged by topic. They are asking \$3.00 per disk to try the program out, but the price decreases with volume purchases. I can't vouch for their reliability, but some of the programs look interesting. Phone number is 1-800-346-0139." Dan Jerome.

* Brian Hansen wrote to Heath Customer Relations Dept: After paying \$125 for service manual and \$50 for an owners manual. I read in the file **Z386-16.NBI on CompuServe Zenith Forum that the CPU board has been updated.** I also, from signal tracing, know my backplane board doesn't match the manual. I asked about service packets for the new items and also asked if there was an update policy. I hope that Mr. Bollman just chose his wording of the response poorly. Being told that a Z386-16 is obsolete could be very upsetting. I hope the real thought was more like discontinued, not obsolete. I don't feel that any computer is obsolete as long as it serves its users needs.

"There are many users of the H/Z computers from the original H8/89 through the latest Z386 33Mhz that don't feel their computers are obsolete; just because it is not the latest technology. If one can do what one wants to do in a time that is acceptable then any computer H8 through Z386 is still a very useful computer even if it is discontinued (but not obsolete!). From what I have read in H-SCOOP about Z505 and Z515 memory boards being discontinued maybe ZDS does think the Z386-16 is obsolete. I hope that BULL can get some handle on this situation because I feel that ZDS is going down the tubes. If I was told that my Z386-16 could not have more RAM installed because boards were discontinued and it was less than one year old, I doubt that I will ever buy another ZDS computer.

"If my 386-16 was being used for business and not a hobby and I was told that my computer RAM could not be added to so that maybe OS/2 could be run, I would be very upset. Doesn't sound to me like ZDS wants to support any product that is not in production. One would think that add on boards for computers in the field would still be profitable and would also show continued support for sold computers.

[editors note: I'm sorry, but I have to agree with Brian. Zenith has had a very bad policy of supporting somewhat the products that are currently selling. I could tell you nightmares that would make you dizzy, but I won't do that now. I think it is totally irresponsible to have discontinued the Z386-16 RAM cards, especially when ZDS specifically designed that computer so that third party cards would now work with it! Then leave you no options whatsoever, than they discontinue their cards, basically leaving the end use with absolutely no alternatives for future RAM upgrades! I feel that ZDS's policy absolutely sucks on this issue, but knowing ZDS much better than any of you could ever know them from all angles, all I can say is that's par for the course. [after I wrote this, I discovered the Heath deal which was described earlier in this issue - However, Heath is not Zenith]

And finally after almost a year of promises from First Capitol Computer (see review) it seems that they finally pulled through with their mod. So even though Zenith may have let you down again, Heath and FCC pulled through.

Anyway, in response to Brian's letter to Heath, (Larry Bollman, Tech consultant for Heath Customer Service respond:

"There are no adindiums from ZDS for that [Z515 memory upgrade] product at this time, and being an **obsolete** computer, they may never become available. The Tech Manual, TM-380, can be checked for availability and cost by calling 1-800-253-0570."

* **Folks are finally waking up for copy protection used in games.** Accolade and others no longer copy protect the disk, which means you can load it right onto a hard drive. Congratulations to them and others who are doing similar things. Several schemes have been used. One is a code wheel where the game signs on and you have to match this with this and that on the code wheel and read out an answer. If one was real clever, he could take it apart and copy it and make one, but it would not be worth the effort.

I have another where you have to identify a liquor glass (Bar games) which is displayed on the screen at start up. It's printed on a dark purple printer with darker purple glasses. Impossible to copy. Then there's several others that make you count down so many lines and over so many words and input the word on such and such a page.

All these are very excellent efforts to copy protect a program without making the disk impossible to use on hard disk, or require a key disk which defeats the purpose of a hard drive. A long time coming, but very excellent solutions. Just don't lose your code wheel!

* I see that the **old TurbosPort 386 laptops are still available** from many sources. I mentioned a place called HIGH TECHNOLOGY LIQUIDATORS before, but had no address for them. A customer sent a clipping from The Wall Street Journal, February 20, 1990. He writes "I am very disappointed in Zenith Data Systems for the seemingly total disregard for the grass roots customer - Needless to say I pass my experience to friends and other computer guys who watch the Zenith machines. The ad reads "We have a limited number of these \$8,495 Zenith Turbo Sport 386 Laptop Computers... and we'll sell you one for \$2995..." I understand they ended up with over 5,000. High Technology Liquidators/ 212-A Marray Dr/ Atlanta, GA 30341/ (800) 992-2873.

* Hitachi has introduce the **densest P-SRAM chip** available to date. It's a **4 megabit chip and only four are needed to get 2 megabytes of RAM.** Ideal for laptops. They drain less power than conventional DRAM chips and cost less than static RAMs. Cost is about \$80 for the 100ns version.

* "I just wanted to drop you a note to tell you that the **HDOS 3.02 project is completed.** In fact, I just finished it up yesterday, and have been making disk copies for the other members of the team. As you know, Richard Musgrave is the programmer, Terry Hall is Chief of Quality, and I am the writer.

When I mailed the disks, I was at first elated, because this project that I put so much effort into was finally done. Then I must have gotten some "post-partum" blues for a time until I started thinking about all of the H89 people out there in the field who will be enjoying the new system. Now I think it was a very good idea." - Dan Jerome

I have not received any word yet, but probably next month we'll be stocking them.

VENDORS

I have been meaning to give the Lindley products some press for quite some time now. Been putting it off because of an overloaded schedule, but here it is. Of great interest to you 8-bit users and also some things for the Z100 and PC users. Everybody read on. Lindley is continuing to support the H/Z 8-bit computers, and I'm real glad. There are some precious 8-bit programs available out there yet and some vendors still actively supporting 8-bit even there is not much in it for them anymore. William Lindley is one of them, and I'm sure glad he is still around! If you recall some time back we mentioned their HDOS printer driver that we are carrying. Very excellent product. Without that product, it would have been very difficult to interface some of the

new printers to the H/Z 8-bit computers. Lindley Systems/ 4257 Berwick Pl/ Woodbridge, VA 22192/ (703) 590-8890. Here is a listing and brief description of some of his products:

PC89LINK, his newest product allows you to transfer files between an H8 or H/Z89/90 running HDOS, CP/M or ZCPR and a Z100 or PC MS-DOS computer at baud rates of up to 38400 baud. Of course you could also use it to transfer between two H89's, A Z100 and PC or two PC's etc.

Features include support of wildcards so an entire disk or subdirectory could be transferred. Automatically determines whether files are binary or text and does the appropriate translations. Supports all serial ports on the computers. HDOS version supports disk mount, dismount and reset. CP/M version supports disk change. MSDOS version allows change directory and drive. Requires only a simple three wire (pins 2,3,7) serial null-modem (lines 2-3 crossed) cable.

On PC89LINK Terry Hall writes "I now have my 2 H89's and my PC linked together. I can backup files from my PC on H47 8" or H37 as easily as saving to a floppy on the PC! It's a marvelous program! One of the best parts (for me) is that it is an HDOS 3 program. I think you should consider selling it..."

Dan Jerome wrote "Bill Lindley sent me an update on my "PC89LINK" program. Version 1.7 has a single disk which carries both the HDOS and the CP/M programs, and I don't know what the PC disk has on it, since I have been so busy trying to complete the HDOS manual, I haven't had the time to "scratch my head." But Bill says that his latest program - the CP/M side - has no problem with any BIOS, since the program directly controls the serial ports of the PC. Also, it doesn't use interrupts, so it will be useful in HDOS 2.0 and also HDOS 3.02."

Price is \$25 postpaid (MS-DOS disk and dual format HDOS-CP/M disk. Specify hard or soft sector HDOS disk and 5.25" or 3.5" DOS disk, or specify one 5.25" and one 3.25" for laptop to desktop use.

ULTIMATE DRIVER for both HDOS and CP/M is the one we discussed awhile back, but I'll recap. I will refer to the HDOS version since I have used it and am familiar with it. The CP/M version has some similar properties, but modifies the Heath/Zenith CP/M BIOS, Livingston BIOS-80 BIOS, QUIKSTOR BIOS, or some other ones built directly from the H/Z original. Not for Magnolia. The main reason I wanted this driver for is the ability to easily control handshaking so that the printer would operate properly in the first place. The original Heath drivers have limited handshake control. With this driver you can configure handshake for positive or negative on any standard handshake line.

It also lets you configure eight different devices for HDOS so one can, for instance, use one for condensed print, one for bold print, one for normal print, etc (see issue #121 H-SCOOP page 6 for more on that). It also supports most any printer. All printer control codes are programmable via normal text characters in your program or text file, so you can additionally change type sizes, styles, graphics, etc., from within a document anyplace you want. It also has the ability to send an initialization string to the printer of up to 16 characters if needed. (CP/M version uses macros inside text to accomplish some of the things the HDOS SET command does)

Other features include: Driver optionally sets high character bit high under your control to access graphics from programs that normally send only seven bits to print files. It has settable form lengths, tabs, left margins, and auto line skip at page break. Carriage return to printer without line feed (for underlining, over strike of two different characters, etc.) is possible. Current settings displayed with SET LP: HELP command. Printing stops when CTRL-S is struck, and starts again when CTRL-Q is struck. CTRL-P toggles the printing of screen characters (like CP/M) except in HDOS 3.

Some supported printers are: Epson and compatible (this includes many, including the Panasonic dot matrix line) Star, NEC-8023, C. Itoh 8510, Okidata Microline, MPI, Paper Tiger.

Other features also. If you have a printer and run HDOS, this is the only driver you will need. Like I stated, I'm not familiar with the CP/M counterpart, but it probably gives you similar control. Source code included.

Price is \$20 postpaid, specify HDOS or CP/M operating system and hard or soft sector.

UPC DRIVER (User Programmable Characters) is a unique driver that runs the printer entirely in graphics mode using Heath compatible escape sequences. It can allow the printer to print all the Heath graphics characters, including inverse. Will print files created with Video Artist or Ed-A-Sketch.

Also can print double or triple width, and/or double height characters. Set the dot density of your printer to control darkness and size of the characters. A character generator is included - design your own characters, or modify the existing ones (Print Greek, math symbols, etc.). HDOS version is device GR; CP/M version installs as UL1: into H/Z CP/M 2.2.02, .03, .04. Source code included.

Price is \$25, specify HDOS or CP/M, printer type (from above), and hard or soft sector. \$25 postpaid.

FORM FIL-R with FORM EDIT-R is for PC compatibles and Z100 owners. Allows you to fill in forms with your computer. Invoices, order sheets, almost any preprinted form. Or define your own forms. Eliminates positioning errors common to typewriter entry. Start with FORM EDIT-R to create a form definition file, then run FORM FILL-R and fill out those forms faster and easier than ever before. Can be saved to a disk file for later recall and correction and/or printing.

You can prepare your own forms and fill them in. Create your form with lines and boxes using FORM EDIT-R. Enter date and print your form onto blank paper. WYSIWYG. Or you can make up a data entry screen and print on pre-printed forms. In this case, use FORM EDIT-R to create a form definition with a data entry screen to be used when entering data, and a print map showing where the data fields go.

Features include: handles forms of any length; page pause feature for double sided forms; adjustable top and bottom margins. Screen support: IBM Line drawing set simulated on the Z100. 30, 43 and 50 line EGA/VGA supported. Send escape or control codes anywhere in the form, even in the middle of data fields for printer control. Change type style, line spacing, etc., using printer codes. Typed fields can be text, integer, real, dollars or date. Real and Dollars fields can be fixed or floating point. Text fields can be forced to uppercase only, and/or right justified. Date fields checked for validity. Fields can have calculated values using four-function math, plus if-then, case selection, average, absolute value, min and max, etc. Can also produce ASCII text files as output for input into a database.

Editing features include: Line drawing to draw lines and boxes, single or double width - FORM FILL-R automatically connects them. Cut and Paste allows you to move regions of text around or make multiple copies. Automatically creates data fields of given length and type and you can easily change the field attributes. Preview how the printed form will look with fields in their "print" positions overlaying the print map. You can add text which will be printed on the forms but won't appear during data entry.

Sample form definitions included: Air Force 1768, 2095, 707, standard letterhead; AMA 1500; DOD 1351-2, 1610, 173; TOPS 5042/Colwell 9090 Invoice; Statement; Labels; numerous Calendars, some automatic (enter starting date and all dates are filled in).

Requires DOS 2.0 or higher. Available in 360K 5" disk, 720K 3.5", or 1.2 meg 5", specify which. \$49.95.

EGAD VGA/EGA/CGA screen print driver print all or part of your text graphic display on your printer. Color text and graphics print in color on color printers. Graphics print in gray tones on monochrome printers. Epson driver produces black and two gray tones for EGA, but printer resolution limits it to black and one gray for VGA. CROP BOX lets you use arrow keys to select any region of the screen for printing graphics and text modes. Magnification factor (1-4) enlarges graphics, limited by printer page size. LaserJet driver maps international characters to ROMAN-8 set for text mode.

Specify one 360K 5" disk or one 720k 3.5" disk. \$25 postpaid. Source code license available - write for details.

QDC Quick Disk Copy is a superfact copying utility for PC's. Reads the entire 320 or 360K source disk into RAM and allows you to make as many copies of this source as you like, without re-reading the source. Formats, copies and verifies the destination in one step. Will use drive A: or B:. Available only on 5". \$25.00 postpaid.

Last but not least, Lindley Systems Z100 hard disk controller software is still available to allow you to use the DTC 510 and 10-1 controller and the KONAN DGC-2000 (both since discontinued, but available at swap fests, ham fests, etc.) Write to Lindley for more info on this product.

Just to let you know, Quikdata is handling a special PC89LINK package which includes both hard and soft sector HDOS-CP/M disks and 5" PC disk in one package. Everything you will need. We also handle their Ultimate HDOS and CP/M printer drivers.

REPORT

RAMTOP/386

User review by Michael W. Stover
2155 Cordoba Drive
Florissant, MO 63033

I'm sure you have all noticed the advertisements in REMARK over the past few months announcing the imminent arrival of the latest product from First Capitol Computer - RamTop/386. Well, the wait is over. What has been called vapor ware can now be purchased, installed and run!

My upgrade to the H/Z-386/16 was very late in the model's life cycle. For the past three years I'd been using a much modified H-248 and watching for the prices of the 386 machines to come down to a level I could afford. In January, after Heath/Zenith announced the discontinuance of the 16 Mhz machine, I thought I'd waited to long. NOT SO! Tom Jorgenson of First Capitol Computer in St. Peters, MO advised he had a couple of very clean, albeit used, 386/16 machines for sale. Trades for the newer "hot rods" no doubt. The one I finally chose turned out to be a Heathkit box with nothing installed save a floppy controller, 1.2 Meg drive, Z505 card, I/O card and the CPU. When I asked about the availability of memory upgrade cards Tom advised that RAM cards for the 386/16 had also been recently discontinued (read - sold out and not reordered by Zenith) and offered an alternative solution to my need for additional RAM in the system. RamTop-386, an ad-on card that, when installed onto the Z505 (1 Meg), card transforms it into the equivalent of a Z515 (4 Meg) card.

I ordered one immediately and joined several other First Capitol loyalists on the waiting list. By April the boards had begun to ship and mine with them. When I received the package, I thought it really looked a little **too** simple to accomplish what it was advertised to do.

The RamTop/386 consists of a piggyback (daughter) board that physically measures 12 inches in length by 2-3/4 inches in width (approximately), two IC chips that remap the Z505 card's memory scheme, a three wire cable harness and a simple but straightforward instruction manual.

The daughter board is of excellent quality and has sockets mounted to accept 36 of the 1 megabit DRAMS which are included in the package. The foil side of the board contains four "positive alignment" sockets, two on either end, and 96 gold plated connection pins along with four rather stout interface cables (more about these later). The lower (when installed) edge of the board sports three additional pins for connection to the small 3 wire harness that will be soldered to the Z505 card.

Installation instructions are in a step-by-step format similar to the Heathkit assembly manuals. They are clear and easy to follow. A caution note in the beginning of the documentation states that "Although every attempt has been made to keep the installation of the RamTop/386 as simple as possible, it is still more complicated than most modifications you might make to your computer. Installing RamTop/386 requires some soldering skill and care and patience to avoid bending or breaking the many pins which will link the RamTop/386 to the Z505 memory board." THIS IS VERY IMPORTANT! If you are not used to soldering on printed circuit cards, find a friend who is! This modification is not for the faint of heart OR an impatient tinkerer!

After removing the Z505 card from the computer, I pulled all 36 256K RAM chips and stored them in an unused "anti-static" tube. The three wire harness was soldered to the Z505 card next. The leads are a tad long when you receive them. I failed to check the NEEDED length and ended up with some surplus lead material to bend around and dress as I connected the boards together. Not anything terrible but a little "kludgy". BE CAREFUL SOLDERING THIS HARNESS TO THE Z505! Tack soldering is simple but can cause problems. Finding and replacing the IC's at locations U464 and U470 went smoothly. Store the unused IC's (the ones you just removed) on the black conductive foam piece the new parts came on. From here on the assembly is purely mechanical. The orientation of the boards as you begin the process is important.

Inserting the four wires from the RamTop/386 board into the Z505 board is EASY! Keeping them in place while flipping the RamTop/386 onto the Z505 is NOT EASY! There is a note on page 9 of the manual that addresses this difficulty. I used the suggested method of taping the wires down with small pieces of electrical tape. This helped but did not prevent me from having to try three times to get the job done. [This problem has been addressed and a single wire with a square pin on the remaining connector will be used in the future.] After flipping the RamTop/386 over to mate with the Z505, make sure all the pins are aligned with their correct positions. This is where the four "alignment sockets" came into play. If these are lined up correctly and the other 96 gold pins are STRAIGHT, the board goes into position with no trouble. All that remains is to plug the three prong connector into the wire harness, set the appropriate switches on the memory card for your desired configuration and recheck your work ONE MORE TIME! Because my modified card was to be the only memory card in the system and I had already set my switches for 640K and EMS on, there were no changes in the configuration. The instruction manual was clear on how to effect any necessary.

The instruction manual was clear on how to effect any necessary changes, HOWEVER, I would recommend reviewing William M. Adney's article titled "Installing a 4 MB Z-515 Board in a Z-386/16" in the April issue of REMARK (ON THE LEADING EDGE) for a more in depth look at memory addressing on this computer. Configuring memory cards on this system is confusing and the Zenith manual contains errors. The RamTop/386 manual also does not cover the need for resetting the CPU switches to the correct position if you are increasing the TOTAL Zenith RAM in the system. This is done utilizing switches SW201 and SW202

and the table in the owners manual. Remember also that if you have more than one Zenith board in the system, the memory cards need to be configured sequentially via switch SW401, positions 0 and 1.

As I installed the newly assembled RamTop/386 into slot 6 of my computer, I noticed another potential problem. The daughter board overlaps the next slot enough so that you CANNOT install another card into it. OH WELL!, I guess giving up one of the Zenith 32 bit slots is a small price to pay for the 4 megs of RAM I now had residing on my RamTop/386 card. I seated the card in the slot, installed the hold down screw and sat back to think a moment about the whole process. It had taken me the better part of two hours to arrive at this point. A little longer than might really be necessary but then I WAS being cautious. THE MOMENT OF TRUTH HAD ARRIVED!

I rechecked all the power connections, reread the directions for setting the switches on the memory card included in the RamTop/386 manual and looked at the card I had just installed into slot #6 one more time. As I flipped the power strip to the on position and listened for the familiar wind up of the hard drives I watched the red LED's on the CPU card for a first indication of any problems. Other than a slightly longer delay for the POST procedure, everything came up normally until the system beeped and announced that the SETUP values were incorrect for the amount of expansion RAM installed. I quickly did a CTL-ALT-RET to the monitor, ran SETUP and adjusted the expansion RAM to read 1024K, saved the SETUP and rebooted. This time no problems! I ran MAPMEM and checked the system RAM. The program reported 640K system RAM (less the overhead), 2048K of EMS RAM and 1024K of Extended RAM! SUCCESS!

Since then, I've not had a problem with the system relating to the RamTop/386 installation. I am fully satisfied with the product and can recommend it to anyone who wants a reasonably simple, reasonably priced pathway to putting 4 Megs of FAST, Zenith compatible RAM in his or her system.

RamTop/386 is available from: FIRST CAPITOL COMPUTER/ #16 Algana Drive/ St. Peters. MO 63376/ Phone: (314) 447-8697. Price: \$995 (including the RAM)

Editors Note: I think the \$995 list price is a bit high. With 1 meg DRAMS now going for about \$8 right now, it translates to \$324 for the RAM. PAL chips go for about \$8. A few extra parts and a board for an additional \$600 seems kind of steep to me, especially with the \$600 Z-515 boards now available with Heath. Mike's report is very positive, I just wish that Tom would lower the price to make it more reasonable. Until he does, I'd opt for the original Zenith \$600 board. Mike did leave me a message stating the Tom plans soon to come out with a 16 meg version.

REQUESTS

* I read in a recent PC MAGAZINE that an excellent word processor written in all assembly language was available free and could be placed on bulletin boards for downloads. It's called VDE 1.5. If anybody has already downloaded this or has it from another source, please send me a copy on any PC disk format. I'll place it on our QD bulletin board for free downloads to the public. - Henry Fale.

I also want anything anybody has in picture files. This includes GIF or anything else, viewers etc. I have been digitizing for a long time and wish to get into this area more. So far the things I have been doing (and before long they will be placed on my board) are far superior to the GIF things I have downloaded from HUG and CIS. They take much more file space though, as a complete VGA can take almost 300K compared to under 100K for GIF files. However, when you look at these on a VGA display, they are full screen and like slides - beter than TV quality. Whatever you send

me, I'll pay you for costs and if you want some of my stuff, let me know. I have hundreds of shots and I am set up to digitize anything with an SVHS video camera or directly from VHS video cassettes. - Henry Fale

CLASSIFIEDS

Classified ads can be placed in this section free of charge by any H-SCOOP subscriber. Non-subscriber's ads are placed at \$10 per insertion in advance. Ads to appear more than once must be submitted separately each month publication is desired - maximum 2 months with 2 month wait. When placing ads, try to keep in mind the 'devaluation' of computers and components and adjust your price accordingly.

FOR SALE-Zenith laptop accessories. External 5.25" floppy disk drive (ZA-181-8) with cable for any SupersPort, MinisPort, Z181 or Z-184 model. \$200 or best offer. Also 300/1200/2400 baud modem (ZA-181-24) for any SupersPort, Z-181 or Z-184 model, \$150 or best offer. Gary Woodward/ (602) 326-7284 evenings or weekends.

FOR SALE-Zenith Z158 computer with 286 express card installed and 101 keyboard. DOS version 3 included with 20MB hard drive (not installed) and Zenith 1470 monochrome monitor. Also have H-P Laserjet printer and Hayes 300 baud modem for sale. Have all manuals and everything is in good working order. Any reasonable offer will be considered. Jim Christianson/ (701) 228-3703 (work), or (701) 228-3987 home. North Dakota.

FOR SALE-Paradise Autoswitch EGA 480 half-card for PC/XT/AT which will handle CGA, Monochrome and EGA graphics with resolutions up to 640 x 480. Brand new with support software and warranty registration for a bargain price of \$75. Also ZVM 1330 color monitor with 640 x 240 resolution and DB-9 connector and cable for \$125. Jim Hamilton (217) 245-7528 after 6PM CDT eves or weekends.

WANTED-H/Z 89 CP/M 80 or HDOS Version 2 stuff. Hardware/Software. Mods, kits, add-ons. Related educational courses. All items must be in working conditions and with assembly/installation instructions, manuals. Please send list with price of each item including shipping to: Irani Enterprises/ POB 1191/ Hay River/ N.W.T., X0E 0R0/ CANADA. [editors note - check our bulletin board as there is some of that stuff sitting there in the liquidation (deals) section].

FOR SALE-NEC model 1401 Multisync color monitor with TTL and Analog switch built in. This is an EXCELLENT EGA tube and can be used on VGA but doesn't have the Frequency range to handle newer specs. Works GREAT with Z-449 and Z-549 cards. \$250. Also the following: Heathkit H-151 computer for sale. System has 640K of RAM (Using RAMPAL), color card (Z-309), floppy controller, hard disk controller, 1-360K floppy, 20 Meg hard drive, dual serial ports, parallel port, Zenith 84 key Kbd, Zenith 1240 TTL amber monitor, DOS 3.2, Wordstar 4.0, MS QuickBASIC, original Heath Manual set with tech. reference, assembly manuals and FBE research COM3 and LIM150/ MegaRAM150 packages. \$550.00. 54 RAM chips, 64K (4164's) mixed 150 and 200 ns chips. All working. \$25.00 for the lot. 18 RAM chips, 64K (4164's) 120 ns chips. All working. \$20.00 for the lot. External Modem. 1200 Baud Prometheus Promodem 1200 in original box with all manuals. \$45.00. CP/M 2.2.04 (Original Heathkit issue) Brand New. Full docs and HS disks. \$25.00. Parallel port for H-89. FBE model H89PIP with board, cable (Centronics) and software. \$20.00. Contact Mike Stover / (314) 831-8174 after 7:00 PM CDT.

FOR SALE- MinisPort Laptop Computer with Two (2) MB RAM, One 2" - 720K Floppy Drive, One Serial port, one Parallel port, Backlit LCD screen is 9.5" diagonal, with resolution = 640 x 200. Three hour battery average. Can run MS-DOS 3.3 and standard

application software such as Microsoft Word and Lotus 1-2-3. Need \$895.00. Call Dave at 616 849-1111 up to 9:00 pm EST.

FOR SALE—I have an H89 with two half-height double-sided, double density disk drives (soft sector). 64K RAM and H17 controller. Software includes: CP/M 2.2 original and update. Microsoft BASIC-80, MICROPRO WORDSTAR, Enhancement for WORDSTAR 2.6 OR 3.0 (hard sector), SuperCalc, some games for the H89. (608) 833-7350. Need to make room so these items will go very cheap. Bruce Michales

FOR SALE—IBM-XT Clone and Heathkit H89A. Call collect (419) 225-5278 if interested, anytime day or night. Bill Pinkston

QBBS

This column which will be printed from time to time will contain messages from our Quikdata Bulletin Board System, a TBBS system, which were left from readers and customers. When some important information is on the board and perhaps relevant answers appear, we will print them in this section.

[Remember last year in H-SCOOP I mentioned new strange drives Zenith started using for their Z159's. They got the message since shortly after I wrote about this disaster in H-SCOOP, they sent a memo out saying they have discontinued these drives. Unfortunately, plenty of Z159's were sold with them. The problems will surface when one wants to add more hard drives and/or replace bad ones. They are expensive and very hard to get. That's what the following is all about.]

Subj: SECOND HARD DRIVE

About 1 1/2 yrs. ago, I bought a Zenith 159 XT, model zdf 1217-DY with 1 floppy drive and a hard drive in place of floppy drive B. The hard drive controller is a Western Digital "XT Hard Disk Adaptor" assembly #61 000146 00. I believe the drive is either a Seagate ST-125 or ST-225, 21 meg which ever is standard from Zenith. I would now like to add a second drive of 40 meg capacity. Three questions (at least) remain. Will my existing controller handle 2 drives? Will my existing 159 cabinet hold the ST-251-1 40 meg drive? Where will the second drive get it's power? Thank you very much for your help and time.

Subj: REPLY TO MSG# 1007 (SECOND HARD DRIVE)

Henry, I have looked at my HD control card. It is unlike any one I have seen before. It has one 40 pin connector and cable that runs directly to the HD. There is no separate data cable. I was hoping you could shed some light on this for me. Any ideas?

Subj: REPLY TO MSG# 1011 (SECOND HARD DRIVE)

Sounds like an IDE style hard drive. It used a 40 pin cable and has most of the controller on the drive itself. IDEs are now just becoming popular since TANDY, COMPUAD, TUSSEY and a few other companies are now using them. They come in both AT and XT speeds. Before trying to add a second drive you might want to see if two are allowed to be connected. I had read in 'H-SCOOP' that some of the 159s had used the IDE Style drives. The EZPC was the first ZDS computer to use the IDE as far as I know. IDEs can be gotten in sizes well over 100M if you were running a File Server. Good Luck Brian

Subj: HARDCARD40 FAILURES

Hank, There is a new development in the case of PLUS Hardcard40s "going bad". I called their Tech Support again, pretending as if I never called before, but reporting the same problem. This time I was immediately offered a new BIOS ROM chip that "might" fix the problem. When I asked him "innocently" if this was a common problem he immediately denied it, even though the first guy I talked about this over a month ago admitted this freely and told me that there was no BIOS fix for it because it was BOTH a hardware and a firmware problem. It's pretty obvious to me that the Tech Reps have been coached by their PR people,

but the fact that they made a new BIOS chip suddenly gives the secret away. I wonder when the major PC papers write something about this. Disclosure of this massive failure of their prior HardCard would come at the worst time for PLUS because they just started a big promotion campaign for their newest product, the HardCard80, bragging again with their "famous" MTBF rates!

PROBLEMS WITH SIGN-ON

A few weeks ago I mentioned a problem I was having logging onto your BBS with Procomm Plus. The DOWNLOAD box always pops onto the screen right after I signed on. I've just figured out what the problem was: in the Procomm Terminal General Options setup menu, there's an entry, J, for Enquiry <ENQ>. This assigns a response to the Ctrl-E character. I had the option set to CIS-B (which automates invocation of the CIS B protocol when downloading from CompuServe.) I guess at some point in my logging on sequence, I was receiving a Ctrl-E from the BBS...or something akin to it. With this Enquiry Option set to OFF, the problem disappears. A minor point, but I thought you might be interested to hear about it.

Subj: REPLY TO MSG# 1341 (PROBLEMS WITH SIGN-ON GONE)

I think the CTRL-E is sent out as soon as you hit this board for automatic baud rate determination. With most boards you have to type a character, CTRL-C or something else which is used to establish your baud rate. This board does not need anything like that. As soon as you sign on, your baud rate is automatically determined, up to 9600 baud, and the board instantly sets itself for your baud. Pretty neat huh?

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JUNE issue deadline—May 15th

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(414) 452-4345 Bulletin Board: 300/1200/2400/9600 (Hayes) auto-baud recognition. Character width of 10 which includes start bit, 8 data bits (7 for ASCII character + 1 parity), and one stop bit. The parity can be omitted and then transmission of graphics and binary data is possible. 8 data bits allows secure error-checking data transfer methods such as XMODEM and YMODEM to be used.

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